SHORT REPORTS

Rheumatoid nodule of pharynx

We wish to report a case of a rheumatoid nodule in the pharynx. On reviewing the literature the only similar case was that mentioned but not reported in full by Gardner in 1968.[1] Indeed, the only other example of a rheumatoid nodule in the upper alimentary tract was described in the tongue.[2]

Case report

The patient was a 48-year-old woman with a five-year history of seropositive rheumatoid arthritis who had been treated with prednisolone and non-steroid anti-inflammatory agents. She complained of anorexia, dysphagia, and progressive weight loss. There were classical joint changes of rheumatoid arthritis in hands, wrists, elbows, and knees with rheumatoid nodules affecting the extensor aspects of both arms and over the cervical and lumbar spine. There were small areas of skin infarction overlying the nodules of the arms. Barium swallow disclosed a rounded lesion posteriorly in the pharynx at the level of C3-4 (see figure). Oesophagoscopy failed to show the rounded lesion. Nevertheless, some thickening of the mucosa was seen at this site and a biopsy was taken.

Barium swallow showing filling defect in pharynx.

Microscopy of the fragments received showed stratified squamous epithelium overlying vascular connective tissue, in which there were several nodules with necrotic fibrinoid centres. The nodules were bounded by foamy macrophages and elongated cells which showed palisading, while occasional Touton-type giant cells were present. The appearances were those of typical rheumatoid nodules.

Discussion

Nodules at a variety of sites may cause unusual symptoms in patients with rheumatoid arthritis. We cannot prove with certainty that this patient's dysphagia with consequent weight loss was due to the presence of these rheumatoid nodules, but the evidence in favour of such an explanation is strong.

The case serves as a caution to physicians to remember the ubiquitous nodule.

[1] Gardner, D L, Clinicopathological Conference, Royal Postgraduate Medical School, London, 1968.
[2] Raven, R W, *et al*, *Annals of Rheumatic Diseases*, 1948, **7**, 63.

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G D Searle and Co Ltd, High Wycombe, Bucks HP12 4HL
G T McINNES, BSC, MRCP, research fellow
Department of Pathology, Western Infirmary, Glasgow G11 6NT
C D LITTMAN, MB, CHB, registrar

Gout with normal serum urate concentration

The absolute diagnosis of gout depends on the detection of urate crystals in the affected joint. It is still widely held that a hyperuricaemia above 0·42 mmol/l (7 mg/100 ml) for men and 0·36 mmol/l (6 mg/100 ml) for premenopausal women is an essential element in the diagnosis.[1] The purpose of this paper, however, while presenting no new findings,[2-4] is to draw attention to four patients with gout whose serum urate concentrations were well within normal limits.

Case reports

Case 1—A 59-year-old man presented with a painful right wrist, which was aspirated. Abundant crystals were seen inside leucocytes and identified by compensated polarised light microscopy as monosodium urate monohydrate. His serum urate was 0·31 mmol/l (5·2 mg/100 ml). Ten years previously he had had an acutely painful great toe and his serum urate concentration had been 0·3 mmol/l (4·4 mg/100 ml). During two subsequent similar attacks the concentrations had been 0·45 and 0·48 mmol/l (7·6 and 8·0 mg/100 ml) respectively.

Case 2—A 66-year-old man presented with exquisitely tender inflammation of the great toe joint that had developed two days after a minor injury to the foot. His serum urate was 0·35 mmol/l (5·9 mg/100 ml). The symptoms responded rapidly to phenylbutazone. He subsequently had an identical attack, which responded promptly to colchicine; the serum urate was not estimated on that occasion.

Case 3—A 65-year-old man had had episodic pain in the left forefoot for 10 years. He presented with swelling of the whole forefoot and exquisite tenderness of the first metatarsaophalangeal joint. He described the previous attacks as identical, although less severe. His serum urate was 0·29 mmol/l (4·8 mg/100 ml) but rose progressively over seven weeks to 0·49 mmol/l (8·2 mg/100 ml). He was then started on allopurinol and colchicine. Colchicine was stopped because of diarrhoea and he promptly developed identical acute podagra, this time with a serum urate concentration of 0·36 mmol/l (6·0 mg/100 ml).

Case 4—A 77-year-old man had had a painful swelling of his left little finger three years previously that discharged white material before healing. He now had a painful, tense swelling of the left fifth distal interphalangeal joint. Purulent material was aspirated but was sterile on culture. Polarised light microscopy, however, showed abundant intracellular and extracellular urate crystals. The serum urate was 0·34 mmol/l (5·7 mg/100 ml). One month later it was 0·39 mmol/l (6·6 mg/100 ml).

Comment

The problem of diagnosing an acutely inflamed joint if gout is suspected is complicated when the patient is already receiving allopurinol or a uricosuric drug. None of these patients was taking any drug. We reviewed the case notes of 57 patients with gout seen since

1963. The mean serum urate concentration during an acute attack was 0·49 mmol/l (8·2 mg/100 ml), but there were 10 men, additional to those described here, whose levels ranged from 0·24 to 0·38 mmol/l (4·0 to 6·4 mg/100 ml) and who were taking no drugs. A further three patients, including one woman, had concentrations of 0·22, 0·24, and 0·25 mmol/l (3·7, 4·0, and 4·2 mg/100 ml) respectively but were taking phenylbutazone or probenecid.

A normal serum urate concentration in acute gout may be misleading diagnostically. Polarising microscopy is simple and specific, and the value of a therapeutic test with colchicine should not be forgotten.

[1] Smyth, C J, in *Arthritis and Allied Conditions*, ed J L Hollander and D J McCarty, ch 59. Philadelphia, Lea and Febiger, 1972.
[2] Jacobson, B M, *Annals of Internal Medicine*, 1938, **11**, 1277.
[3] Hall, A P, *et al*, *American Journal of Medicine*, 1967, **42**, 27.
[4] Hadler, N M, *et al*, *American Journal of Medicine*, 1974, **56**, 715.

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St Stephen's Hospital, London SW10 9TH

M L SNAITH, MD, MRCP, consultant physician in rheumatology (present appointment: consultant rheumatologist, University College Hospital, London)

E N COOMES, MD, FRCP, consultant physician

Response of patients offered influenza vaccination by injection and by nasal insufflation

Vaccination against influenza has been advocated particularly in those who are at risk from complications of infection. In the present study "at risk" patients in a general practice with 5400 patients in a residential area in the suburbs of Glasgow were identified using a feature card retrieval system[1 2] and offered vaccination either subcutaneously or intranasally. Patients included were those in the 70 years and over age group, those with chronic chest or heart disease, and patients taking steroids. Four hundred and thirty-four such patients were identified. The aim was to determine the number of patients at risk; the number who accepted the offer of influenza immunisation; whether the form of immunisation affected the response rate; and to compare the response in the "at risk" patients with those in a "healthy" group.

The study

"At risk" patients were randomly allocated to one of two groups, those from the same family being allocated to the same group. The 228 patients in group A were sent a letter which invited them to attend the surgery without an appointment for immunisation by nasal insufflation, using a killed virus vaccine insufflation manufactured by Duphar Laboratories. The 206 patients in group B were invited to telephone to arrange an appointment for influenza vaccination by injection. Overall, about one-third of the patients accepted the offer of immunization (table). In the group of patients with disease about one-half responded, compared with just over a quarter in the 70 and over age group. There was no significant difference in the response rate between those offered immunisation by injection and those offered immunisation by insufflation.

A further 310 "healthy" patients in the age group 50-69 were selected from the practice. This group was subdivided randomly into two groups, one group being offered immunisation by injection and the other immunisation by insufflation. As with the "at risk" group, overall about one-third of the patients responded. Nevertheless, in this group more patients responded to the offer of immunisation by insufflation (37%) than to immunisation by injection (23%)—a significant difference ($P < 0.01$).

Number of "at risk" patients responding when offered influenza vaccination

	Patients with chronic respiratory or cardiac disease or on steroids		Patients aged 70 years and over		Total	
	No offered	No (%) accepting	No offered	No (%) accepting	No offered	No (%) accepting
Nasal insufflation..	44	22 (50)	184	52 (28)	228	74 (32)
Injection ..	33	16 (48)	173	48 (28)	206	64 (31)
Total ..	77	38 (49)	357	100 (28)	434	138 (32)

Discussion

While immunisation of patients at risk from influenza (estimated in this study to be about 8% of the practice) is widely advocated, this advice is not always followed in practice and only a small proportion of such patients are in fact protected. In this study, only one-third of patients responded to the offer of immunisation, although a higher proportion of patients with disease responded than patients in the 70 years and over age group. This difference could not be accounted for by difficulty in attending the surgery as domiciliary immunisation was also offered to this group. Possibly patients in the older age group are less willing to accept medical intervention unless they consider it necessary. Many patients in this group may have felt well and indeed the response rate was similar to the overall response rate in the 50-60-year-old control group.

We felt that the fear of an injection might deter patients from accepting immunisation. While this might be a factor in the "healthy" group of patients, there was no evidence for this in the "at risk" group. Thus, if a maximum response rate is wished for in "healthy" patients immunisation intranasally is more likely to achieve this than subcutaneous administration of the vaccine.

We are grateful to Duphar Laboratories Limited, Southampton, for help and provision of vaccine and to Drs Thorburn, Prentice, Kiernan, and Budge for their co-operation.

[1] Harden, K A, Harden, R M, and Reekie, D, *British Medical Journal*, 1974, **2**, 162.
[2] Reekie, D, Harden, K A, Harden, R M, and Jolley, L, *Journal of The Royal College of General Practitioners*, 1975, **25**, 369.

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Bearsden, Glasgow

KENNETH A HARDEN, MB, MRCGP, general practitioner

Department of Therapeutics and Centre for Medical Education, University of Dundee

RONALD McG HARDEN, MD, FRCP, consultant physician

Cushing's disease: failure of treatment with cyproheptadine

The successful treatment of three patients with pituitary-dependent Cushing's disease with cyproheptadine has recently been reported.[1] We have studied pituitary and adrenal function in a 13-year-old boy with Cushing's disease and found cyproheptadine to be ineffective.

Case report

A 13-year-old boy presented in November 1975 with obesity and short stature. He had always been plump but had not grown for three years. He had become an extremely light sleeper and emotionally labile but had had no headaches, visual disturbance, or weakness. His weight was above the 75th centile and height below the 3rd centile. He had a plethoric facies, a moderate "buffalo" hump, profuse axillary hair, pubic hair stage 4, external genitalia stage 3, and testicular volumes of 8 and 6 ml. Blood pressure, fundi, and visual fields were normal. Bone age was 12·3 years.[2] Skull *x*-ray picture was normal. Pituitary and adrenal function tests (table) confirmed the diagnosis of Cushing's disease. The plasma cortisol rose from a rather high resting concentration of 402 nmol/l to 520 nmol/l (14·6 μg/